



AGENDA

Late Reports

Tangata Whenua / Tauranga City Council Committee meeting Wednesday, 12 June 2024

Date: Wednesday, 12 June 2024

Time: 9.30am

Location: Waikari Marae
61 Waikari Road
Matapihi
Mount Maunganui

Please note that this meeting will be livestreamed and the recording will be publicly available on Tauranga City Council's website: www.tauranga.govt.nz.

Marty Grenfell
Chief Executive

Order of Business

10 Business..... 4

10.4 Hairini Street Bus Lane 4

10 BUSINESS

10.4 Hairini Street Bus Lane

File Number: A16049575

Author: Jasmin Burness, Junior Project Manager

Authoriser: Nic Johansson, Head of Transport

PURPOSE OF THE REPORT

1. The purpose of this report is to provide an update on the request from Commissioners and Hapū at the 10th April 2024 Tangata Whenua / Tauranga City Council Committee at Hairini Marae around the request to re-open the Hairini Street bus slip lane.

RECOMMENDATIONS

That the Tangata Whenua / Tauranga City Council Committee:

- (a) Receives the report "Hairini Street Bus Lane".
- (b) Endorses the proposed trial to open up Hairini Street bus slip lane between 7pm through to 6am during weekdays and weekends.

DISCUSSION

2. The Hairini slip lane, operational for several years, was re-designated as a bus-only lane in 2019 following a post-construction road safety audit of the Welcome Bay Link Road project. This project introduced an additional lane for traffic traveling from Welcome Bay towards Tauranga CBD, resulting in the need for three lanes to merge into one near the Hairini Bridge. The safety audit identified this merging requirement as a significant concern. Consequently, the Hairini slip lane was converted to a bus lane only to address the safety issues associated with merging three lanes of traffic, with the assessment that a bus lane only merge would be more manageable.
3. Since this change, multiple requests have been received from the community and Hapū to open the slip lane during periods of reduced traffic flow or to consider reopening it for general traffic use. Local Hapū have requested the reopening the slip lane to all traffic during certain time periods outside of the peak hours (7PM to 6AM during weekdays, weekends and during school holidays).
4. In May, Tauranga City Council (TCC) engaged Stantec to investigate and assess several scenarios, including both short-term and long-term options, for improving the transportation network from Welcome Bay to 15th Avenue by allowing more traffic along the Hairini bus lane. The short-term options are intended to be implemented quickly to provide immediate relief and improvements, while the long-term options will be documented in the 15th Avenue to Welcome Bay Single Staged Business Case. These long-term solutions will be further developed and explored in parallel with the design consultant overseeing the 15th Avenue to Welcome Bay project.
5. The assessment of the short-term options as per Stantec's Hairini Road – Slip Lane Assessment Report dated 7th June 2024 for opening the Hairini Street bus lane concluded that nighttime opening (7PM to 6AM, 7 days per week) may be feasible due to lower traffic volumes. However, opening Hairini Street on weekends would likely generate significant operational and road safety issues due to high traffic volumes. Additionally, insufficient traffic

data during school holidays precludes a thorough assessment of the potential impacts, although it is noted that AM traffic remains high during these periods.

6. The report identifies that based on the short-term options TCC could undertake a trial opening of the Hairini bus slip lane to general traffic outside peak hours, specifically from 7 PM to 6 AM on both weekdays and weekends. Stantec has assessed that this change can be implemented without significant operational or road safety concerns, as indicated in the below concept design and with associated signage and engagement.



7. The trial of opening the Hairini Street bus lane to general vehicles between specific hours can be achieved as a pilot scheme under the Land Transport Rule: Reshaping Streets 2023¹ and can run for up to 2 years, which enables Councils to implement short-term alterations to streets for the purpose of testing various street layouts and features.
8. Initially this open period will be 7PM to 6AM, 7 days per week, however this period can be adjusted dependent on findings from the pilot.
9. This rule allows communities the opportunity to experience these modifications in real-time and offer feedback. By engaging communities in this manner, the pilot scheme facilitates a more participatory approach to street transformation and allows for iterative improvements to the design while it is implemented. Practical observations regarding the functionality of the design and community feedback gathered during the trial period can then be utilized to inform future permanent street alterations.
10. Bay of Plenty Regional Council and Ngai Te Ahi Hapū have acknowledged their support for the limited re-opening of the Hairini Street bus lane along with TCC Transport team and

¹ <https://www.nzta.govt.nz/walking-cycling-and-public-transport/reshaping-streets/>

Safety Engineer. The traffic enforcement team have confirmed there is no impact on the team and only signage changes are required to enforce the trial.

NEXT STEPS

11. Proceed to plan and prepare for the implementation of the Reshaping Streets pilot scheme.
12. Engage and inform the community of the proposed changes.
13. Implement the changes and monitor the operation and effects on the network.
14. Report back to the Tangata Whenua Committee with an update by the end of 2024.
15. Include the longer-term options in the 15th Avenue to Welcome Bay Single Staged Business Case for further investigation in the near future.

ATTACHMENTS

1. **Hairini Road - Slip Lane Assessment (07 June 24) - Memo - A16056875** [↓](#) 



Technical Note

To: Tauranga City Council

Attention: Jasmin Burness

Project: 15-WB SSBC

Project No: 310205242

From: Stantec

Date: 07 June 2024

Rev	Date	Description	Prepared by	Quality Reviewer	Independent Reviewer	Final Approval
01	07.06.2024	First Issue	H. Poulsen	S. Lloyd	M. Soper	S. Lilley

Hairini Bus Slip Lane – Opening for General Traffic

Technical Report

1. Introduction

1.1 Overview

Stantec was commissioned by Tauranga City Council (TCC) to undertake an assessment of the existing Hairini Street bus slip lane with a view to explore options to open this slip lane to general traffic. This assessment forms part of the 15th Avenue, Turret Road and Welcome Bay Road (15-WB) Single Stage Business Case (SSBC).

The location of the bus slip lane is shown (highlighted in yellow) in **Error! Reference source not found.**

The existing location of the merge between the bus-only lane, SH29A off-ramp and Welcome Bay Link Road (three lanes into one) is shown in red.



Figure 1: Hairini Bus Slip Lane



Figure 2: Google Street View

Approximately 100m south of the Hairini Bridge, two general traffic lanes merge into a single lane. Buses then merge with general traffic just before the bridge. Therefore, within a short distance, three lanes merge into one.



Technical Note

1.2 Background

The Hairini slip lane has been operational for several years. It was recently changed to a bus lane only slip lane in 2019 following a post construction road safety audit of the Welcome Bay Link Road project. The changes following the construction of the Welcome Bay Link Road, included an additional lane was added for traffic travelling from Welcome Bay towards the Tauranga CBD. This now required three lanes to merge into one lane close to the Hairini Bridge. The road safety audit labelled the safety concern as significant. As a result, the Hairini slip lane was subsequently made a bus lane only, to mitigate the significant road safety issue of merging three lanes of traffic. It was deemed that operating a bus lane only merge would be manageable.

Following the change to a bus lane only slip lane, there has been several requests from the public to open the slip lane during reduced traffic flow periods or look at opportunities to allow the slip lane to be opened to general traffic again. Local Hapū have requested the reopening the slip lane to all traffic during certain time periods outside of the peak hours (7PM to 6AM during weekdays, weekends and during school holidays).

1.3 Purpose of Technical Note

The intent of this technical note is to assess the effects of opening the Hairini bus slip lane to general traffic. The major impact is to road safety, particularly because of the merging of three lanes of traffic just before the Hairini Bridge. Rat-running through Hairini Street (from SH29A towards Turret Road) is also another key effect, with the potential negative wider safety and traffic operations impacts that could be created.

1.4 Scenarios

The following scenarios to be assessed and commented on include:

1. Full permanent opening
2. Outside peak periods – 7PM to 6AM (7 days per week)
3. Weekends
4. School Holidays/School Peak
5. AM Peak
6. Inter Peak - 9:00AM to 2:30PM
7. PM peak
8. Slip lane only available for specific users on Hairini Street.
9. Operation following 15-WB tidal flow lanes on Turret Road.

2. Traffic Flows

2.1 Overview

To assess the likely impacts that may result from opening the slip lane to general traffic it is important to obtain as much relevant and up-to-date traffic information as possible.

Ideally, the assessment would be informed from the following data:

- Hourly traffic flows, queuing distances and speed on Hairini Street, Turret Road/Welcome Bay Link Road for a full week including weekend and a school holiday week.
- Traffic patterns to clearly indicate travel routes for any traffic that may select the Hairini Slip Lane as an alternative to traveling along SH29A roundabouts onto Turret Road (eg. Ohauti Road traffic travelling towards the CBD would likely choose the shorter and more direct route via Hairini St.).
- Microsimulation modelling to understand the merge behaviour.

However, the urgency of this work has meant this assessment has been based only currently available data. This means that there is some associated risk with robustness of the stated recommendations/conclusions.

The available data is:

- Turret Road Weekday and Weekend hourly flow graphs (directional) – shown in Figure 3
- Average Daily Traffic Volumes
- 2 hour AM and PM peak volumes along main roads.
- 3 hour traffic modelling results for AM, IP and PM periods showing route selection – shown in Figure 4.



Technical Note

2.2 Turret Road - Hourly Traffic Profile

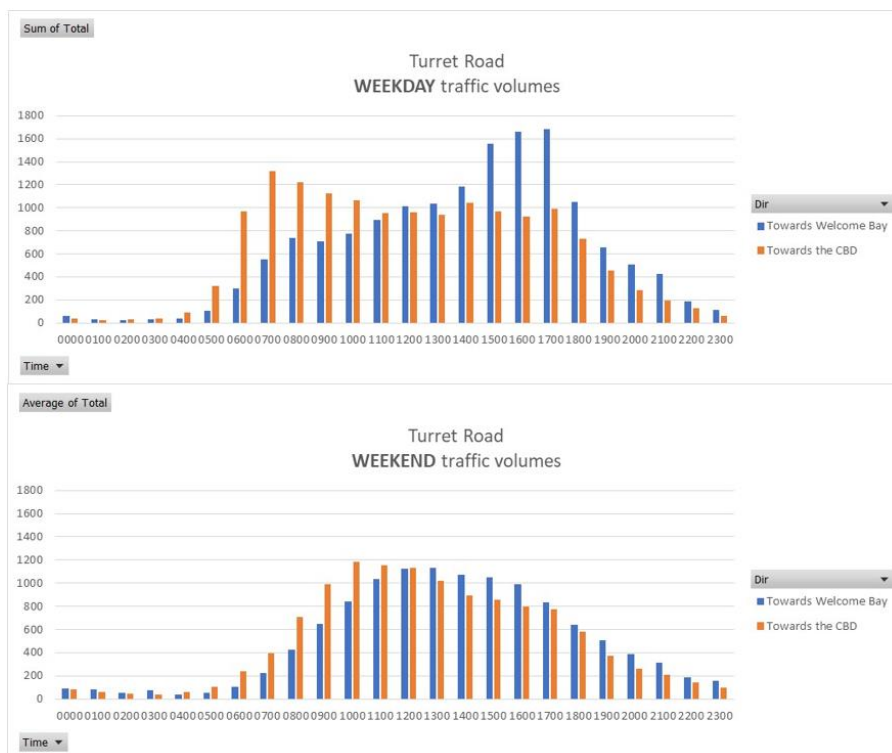


Figure 3: Hourly Turret Road traffic volumes

The volume graphs show the traffic along Turret Road (passing the Hairini Bus Slip Lane) in orange.

Weekday

- During the weekday, traffic heading towards the CBD starts to peak between 6am-7am with around 1100 vehicles per hour (vph).
- From 5am to 6am these flows are approximately 350vph.
- Throughout the day the CBD bound traffic remains fairly constant at around 1000vph.
- From 5pm, traffic volumes begin to decrease along Turret Road - approximately 750vph between 6pm-7pm.
- Between 7pm-8pm, the CBD bound traffic reduces significantly to just under 400vph. Overnight, from 8pm through to 6am the CBD bound traffic remains low.

Weekend

- Weekend traffic towards the CBD starts to peak later than during the weekdays.
- From 7am the CBD bound traffic is 400vph and remains above 700vph throughout the day to around 6pm when it reduces to around 600vph.
- From 7pm the traffic volumes are again below 400vph.

2.3 Modelling outputs

Figure 4 shows the three hour modelled traffic flows heading towards Turret Road using the immediate road network. Of particular note is the 117 vehicles travelling from Hairini Street to Turret Road towards the CBD.



Technical Note

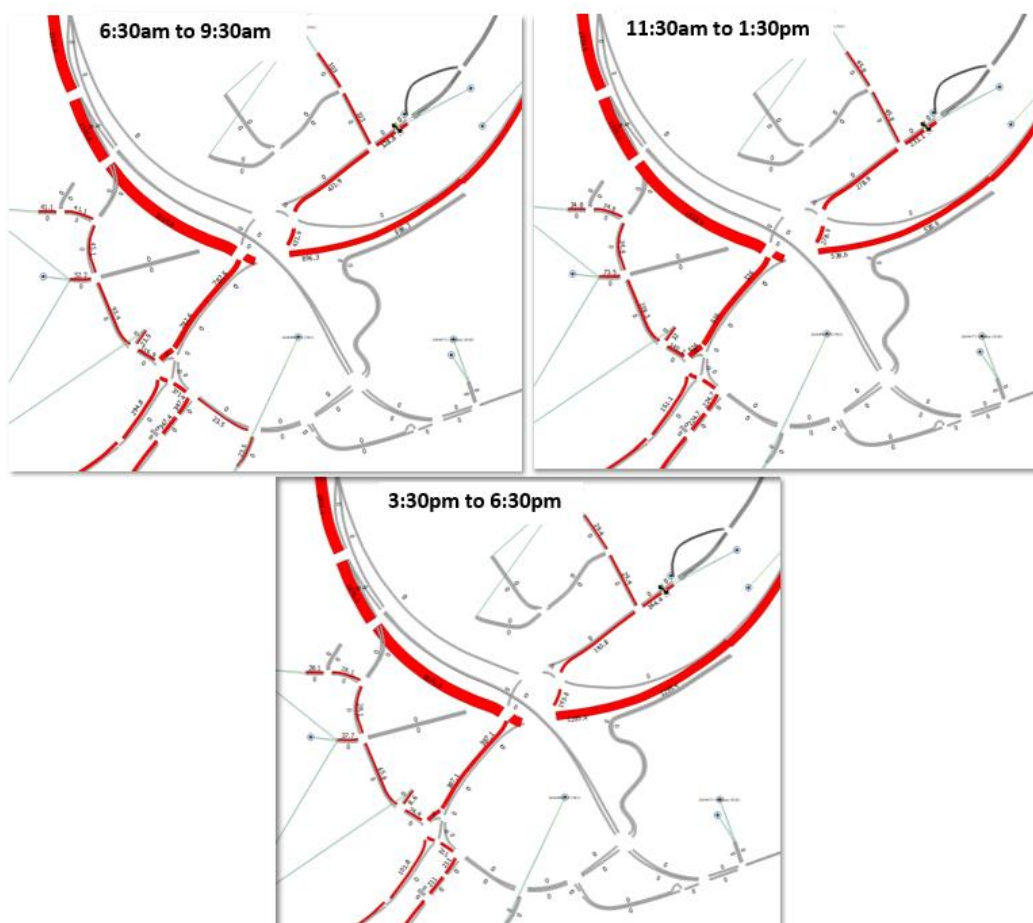


Figure 4: Three hour traffic modelling results for AM, IP and PM periods

3. Data Analysis

In order to assess the effects of opening the Hairini bus slip lane to general traffic at various time periods, the available traffic flows have been converted into hourly flows. This has been based on the hourly flow proportions over a similar time period using flow from Figure 3 and the route selection traffic flows in Figure 4.

To gauge the potential additional hourly traffic using the Hairini slip lane if opened to general traffic, the model flows have been factored and split to hourly flows using the proportional split of hourly Turret Road traffic flows in Figure 3.

Due to the modelled flows only being available during morning (6:30AM to 9:30AM), interpeak (11:30AM to 1:30PM) and evening peak (3:30PM to 6:30PM) it has only been possible to assess these three periods. An assumption has been made that the PM peak traffic using the Hairini slip lane is similar to that outside of the peak to get an approximation for traffic using the slip lane in the 7PM to 8PM time period.

The resulting estimated existing flows are shown in Figure 5.



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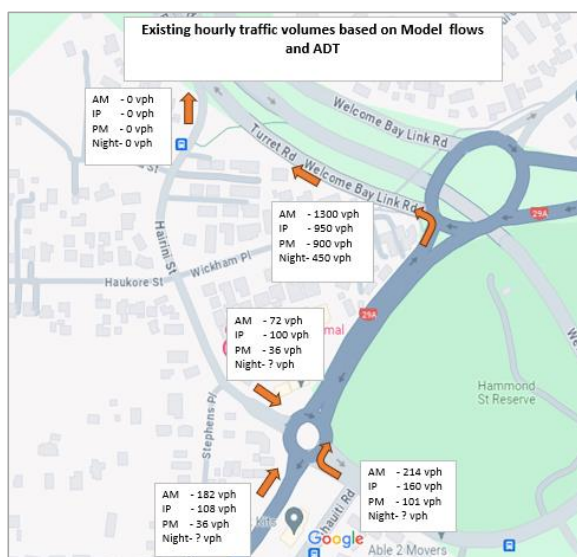


Figure 5: Estimated hourly traffic flows travelling towards the CBD via Turret Road

Figure 5 shows the estimated hourly traffic flows from Hairini Street, SH29A (north) and Welcome Bay Road travelling towards the Tauranga CBD using Turret Road.

Figure 6 estimates the hourly flows likely to use the Hairini slip lane if this was opened to general traffic.

An assumption has been made that 100% of the Hairini Street traffic would use the slip lane and 75% of traffic from SH29A and Welcome Bay Road would use the Hairini slip lane, with the remaining 25% continuing to travel along SH29A through the roundabouts and left turn onto Turret Road.

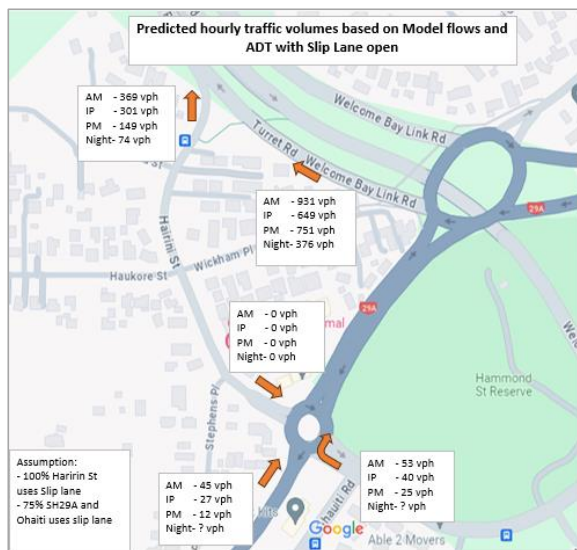


Figure 6: Predicted hourly traffic flows using Hairini Slip lane

Figure 6 shows the estimated traffic using the Hairini slip lane and the reduced Turret Road traffic flow. In the AM peak hour it is estimated that 369 vehicles would use the slip lane with 931 vehicles using Turret Road.



Technical Note

In order to gauge the operational effects of opening the Hairini slip lane capacity assessment has been undertaken, using SIDRA intersection modelling software, for the four time periods (AM, IP, PM and 7PM).

Table 1: Sidra Intersection modelling results

		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. Dist]	
Turret Rd	AM	0.527	2	LOS A	0	0
	IP	0.367	0.9	LOS A	0	0
	PM	0.425	0.5	LOS A	0	0
	7PM	0.213	0.2	LOS A	0	0
Hairini Slip Lane	AM	0.904	38.3	LOS E	0	71.7
	IP	0.486	11.4	LOS B	0	17.7
	PM	0.288	11.3	LOS B	0	7.7
	7PM	0.081	6.9	LOS A	0	2
All Vehicles	AM	0.904	12.3	NA	0	71.7
	IP	0.486	4.2	NA	0	17.7
	PM	0.425	2.3	NA	0	7.7
	7PM	0.213	1.3	NA	0	2

Table 1 shows the expected operation of the Hairini slip lane merge for the four time periods when opened to general traffic. As the priority road Turret Road level of service (LOS) is not affected by the opening. During the AM peak period it is clear that the Hairini Slip lane will be heavily congested with a low Level of Service (LoS) E indicated by the average delay to vehicles exiting the slip lane of 38 seconds and queues of up to 72m (back to SH29A).

During the interpeak and evening peak the indicated LOS is B, which is acceptable. However, with flows of 301vph on the slip lane and 649vph on Turret Road during the interpeak there is a high risk of congestion and merging issues likely. During the evening peak flows of 149vph on the slip lane and 751vph on Turret Road. Any small changes to these volumes could potentially generate further delays to the slip lane.

During the off-peak period, starting at 7PM, the modelling results show good levels of operation with minimal delays, mainly due to the low expected traffic flows on both Hairini Slip Lane (74vph) and Turret Road (376vph).

However, with minimal actual traffic data being available at this stage, such as detailed speed counts and queuing data along Turret Road, these results should be treated with caution especially during the morning peak period. As recommended under section 3, further traffic data should be obtained to ensure more accurate modelling results. The Sidra modelling has not been able to be calibrated in terms of queuing happening with the merge between Turret Road and Welcome Bay Link Road, where there currently is heavy congestion during the morning peak causing queue backs onto both roads. This additional traffic data will enable more robust modelling output.

Based on the above traffic flow assessments, each of the slip lane opening periods are discussed in further detail in the following sections.

3.1 Full permanent opening

Based on the above assessment and available traffic flows, it is not considered appropriate to open the Hairini Slip Lane to general traffic on a permanent basis.

In order to more accurately model the expected operation additional traffic flow surveys will be required. To advance this option further, additional traffic and route selection data will be required to accurately model the expected effects. At this stage this option is not recommended to be proceeded.

3.2 Outside peak periods – 7PM to 6AM (7 days per week)

Based on the assessed traffic volumes, particularly those shown in Figure 3, it is clear that the traffic volumes on Turret Road reduces significantly after 7PM through to 6AM during the weekdays and from 7PM to 8AM during the weekend. The Sidra intersection modelling also shows minimal operational effects of opening the Hairini slip lane to general traffic between the hours of 7PM to 6AM.

Should this option be favourable to TCC this could be trialled over a two-month period to gauge the actual real time effects. A number of things would need to be implemented beforehand, such as signage to clearly indicate what time the slip lane is open to general traffic and also prior engagement and information to the general public and utilising the existing bus lane enforcement.

It is also recommended that the existing bus lane slip merge be slightly altered to ensure that any general traffic from the slip lane merges with the Turret Road traffic prior to the Welcome Bay Link Road. This would ensure that the original safety concern that resulted in closing the slip lane to general traffic is mitigated.



Technical Note



Figure 7: Recommended slip lane merge change

Figure 7 shows the recommended slip lane merge change and will allow approximately 100m for the slip lane general traffic to merge with Turret Road traffic. The bus lane only remains as per existing.

3.3 Weekends

The traffic flow assessment shows that the weekend traffic is high along Turret Road between 8AM to 7PM. Opening the slip lane during the full weekend would likely generate both operational and road safety issues.

To advance this option further, additional traffic and route selection data will be required to accurately model the expected effects. **At this stage this option is not recommended to be proceeded.**

3.4 School Holidays/School Peak

Currently no traffic flow data is available for school holiday traffic, as such without this it is not possible to estimate the likely effects during these times. However, it is not considered likely that this would be a viable option with the current layout and also expecting that particularly the morning peak period will remain high. To further assess this option additional traffic flow and route choice patterns will be required during a full school holiday period week.

3.5 AM Peak

Based on the traffic flow assessment it is not considered viable, both from an operational and road safety perspective to open the Hairini slip lane to general traffic during the AM peak period. The Sidra Intersection modelling shows long delays and queuing along Hairini Street extending to the SH29A roundabout. This option would also negate any positive effects the current bus lane has as any buses would be caught in the queues.

Should the Hairini slip lane be wanted open during this time an option of establishing a second slip lane for general traffic with ramp metering signals on Turret Road to allow Hairini slip lane merging and maintaining the bus slip lane only could be an option.



Technical Note

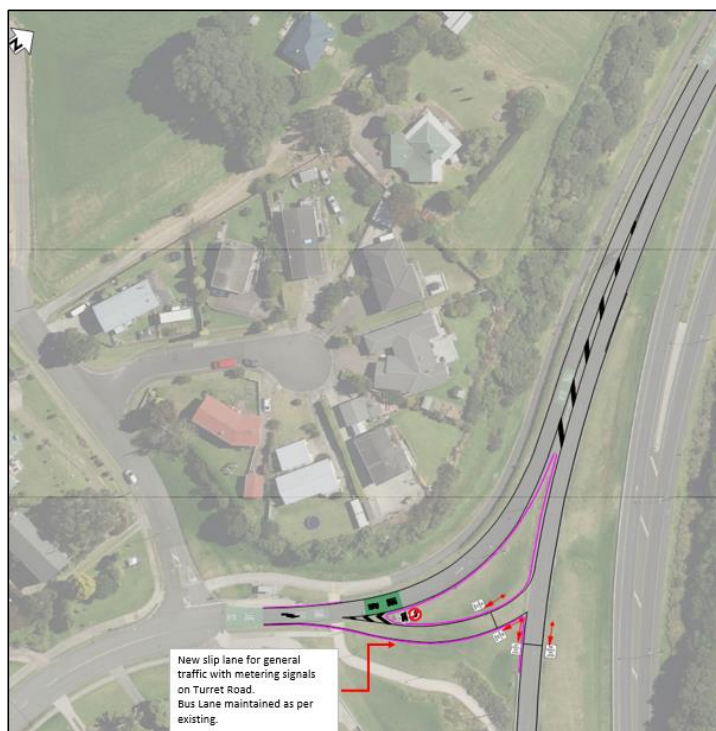


Figure 8: Possible new slip lane and ramp metering signals

Figure 8 show a possible new slip lane layout where the new slip lane would cater for general traffic that is provided with a ramp metering system on Turret Road to allow the slip lane to merge with Turret Road traffic. The existing bus lane would remain as per existing. With this option, there will likely be queuing happening on Hairini Street that will block any buses from entering the bus lane and additional delays to traffic on Turret Road due to the ramp metering signals.

To advance this option further, additional traffic and route selection data will be required to accurately model the expected effects. This option will also require a reasonable capital expenditure for the new infrastructure. **At this stage this option is not recommended to be proceeded.**

3.6 9:00AM to 2:30PM and PM peak.

Based on the traffic data available, the time period between 9AM to 2:30PM does have high flows along Turret Road and there are risks of high delays to the Hairini slip lane traffic and also the merging road safety issues.

To advance this option further, additional traffic and route selection data will be required to accurately model the expected effects. **As such, no conclusion can be drawn at this stage.**

3.7 Slip lane only available for specific users.

An option has been suggested where the Hairini slip lane would only be open for specific users along Hairini Street. This could include any staff/visitors to the Marae and residents.

This option has been discussed with TCC, and it is considered too difficult to ascertain who and why someone should be allowed access or not. The actual operation and enforcement of this option is also deemed too difficult and cost prohibitive. **As such this option is not recommended to proceed.**

3.8 Operation following 15-WB tidal flow lanes on Turret Road.

The current 15th Avenue to Welcome Bay (15th-WB) project is looking at providing three lanes of traffic across the Hairini Bridge and along Turret Road to 15th Avenue. This would be operated using a tidal flow (dynamic) lane arrangement where two lanes would be provided for traffic heading towards the CBD during the morning peak period and vice versa during the evening peak period.



Technical Note

The option of opening the slip lane during off the off peak period between 7PM to 6AM is not considered to have any effect on the possible tidal flow operation. As assessed with the other options, additional traffic data will be required to more accurately determine the likely effects.

4. Summary and Next Steps

Based on the above assessments, it is clear that one option is available for a test trial should this be desired.

The option of opening the Hairini bus slip lane to general traffic outside of the peak periods, namely 7PM through to 6AM during both the weekdays and weekends is considered possible without any significant operational and road safety issues expected with the suggested slip lane merging change as shown in Figure 7 and associated signage and engagement. This trial could readily be undertaken on a two-month basis.

Should this option be implemented, it is recommended that extensive traffic surveys including hourly traffic flow counts, speed counts and traffic route selection using Automated Number Plate Recognition is done before and during the trial. This would then also allow further assessments of the other options that have been discounted in Section 4 due to a lack of accurate traffic data.